

## **Analysis of cognition application in teaching and learning for early childhood by physical and aesthetic elements in National Standard Preschool Curriculum (KSPK)**

Suppiah Nachiappan\* and Norwahida Makhtar  
*Sultan Idris Education University, Malaysia*

This study aimed to analyze the progress of cognition process through physical and aesthetic development elements in teaching and learning for pre-school teacher. The data was obtained through a practical experience in a private kindergarten located at Cheras, Kuala Lumpur. The daily lesson plans and student work sheets for two months duration were studied to obtain and transcribe data into texts. With the help of Hermeneutics method, the data were analyzed and showed that pre-school teachers were capable of planning the daily lesson and effective teaching methods according to the level of a child's development. This research also showed how the pre-school teachers applied the cognition process in teaching and learning activities. Studies showed that the pre-school teachers lacked in creativity in planning the daily lesson, particularly involving the physical and aesthetic development. The teaching approach and methods that were less effective would cause the slow development in cognition process among pre-school students.

**Key words:** Cognition; early childhood; National Standard Preschool Curriculum (KSPK).

### **Introduction**

According to the theory of child development, Arnold Gesell (1880-1961) formulated that heredity and maturity are important factors in determining a child's development. Other than that, a child's development is also unique and different from each another as well as the development of children through several specific stages.

When they enter the first stage, children would show unstable behavior as they have to face the modified coordination skills. Gesell also concluded that the first 5 years is the critical stage of development for childrens' in physical, mental, emotional, social aspect and most importantly for the education in the future. A similar statement is found in Robert Havighurst theory, which stated that genes and environment are the main factor that affects the physical development of a child. A child's attitude, personality, and

---

\* Corresponding author: Email:suppiah@fppm.upsi.edu.my

maturity is inherited from the parents. At the same time, maturity development is also greatly influenced by the child's environment.

Knowledge and skills acquired by teachers are pillars to the teaching and learning environment. Therefore, the teacher must respond creatively by selecting suitable methods and techniques that will assist in child development according to the age. This is crucial because effective methods will help children to master the 4M skills. They are writing, reading, mathematics and reasoning.

## **Literature Review**

Physical and aesthetic elements containing in National Preschool Curriculum (2003) are divided to physical development, health care and creativity development. In the components of physical development it states that children's physical activities that can strengthen their muscles. While a child's attitude, personality, and maturity is inherited from the parents. Maturity development is also greatly influenced by the child's environment, healthcare consists of physical health, environment cleanliness and healthy food consumption. For example, free from illness, clean clothes and etc. Creativity development includes all the visual arts, music education, dramas and creative movement.

This research tries to observe the cognitive application that have been conducted in overseas. This study is not just focused on the study of cognitive development but various aspects of inter-related studies as well. Studies conducted by the Western researches are more focused on the psychological theory which helps more in the growth and mental development of children of their age. One of the researches is a journal entitled, 'The Effects of Physical Activities on Adolescents Long-Term Memory by Fredrik Back. Although this study focuses more on teenagers but it also studies the physical activity of children.

The study found a significant relationship between physical activity and cognitive development. There were no differences in academic achievement between male and female respondents. But the researchers found differences in physical activity achievement between male and female respondents. This situation can be observed when the memory or cognition of the correspondent becomes much better when they conduct physical activity in their daily life.

In the National Standard Pre-school Curriculum (KSPK) development of children in a holistic way is being emphasized in order to produce holistic / whole-rounded students. This statement can be reviewed in the KSPK document. Nowadays, children development is more likely to be studied as there are many researchers who started to involve in various researches. According to Zainuddin Abu Bakar (2013), children development and growth are important in the process of teaching and learning and using teaching techniques for all students in various stages of development.

## **Research Objectives**

- i) To identify ways to apply cognition in teaching physical and aesthetic development in early childhood education.
- ii) To study how students acquire cognition in the learning process of physical and aesthetic elements in early childhood education.

## **Research Methodology**

This study is based on a research design using Hermeneutics as the methodology that used to interpret the daily teaching plan and students written worksheets. This methodology is specially designed to study and analyze the application of cognition through physical and aesthetic elements in teaching preschools teachers and acquisition of cognition through the physical and aesthetic components in student's learning process. The observation and analysis of Daily Teaching Plan documents and student written worksheets for two months will be interpreted.

This study is a descriptive study using the analysis of Hermeneutics. In this study researcher used Hermeneutics analysis which is a branch of the qualitative analysis of Hermeneutics that sees every individuals as unique who has emotions, thoughts and behavior of their own. Researchers find that qualitative method suits this study best since it is closely related to the psychology of human behavior (Suppiah, 2003). According to Loganathan (1992), Hermeneutics is defined as a process of text interpretation, a way of finding the meaning of the written texts. Two aspects that contains in the Hermeneutics are people living through language and were given with the understanding and knowledge.

Hermeneutics is derived from two Greek words which are 'Hermeneuin' in form of verb means to interpret and 'Hermeneia', in form of noun means interpretation. This method prioritizes text interpretation in cultural and historical context through exposure of researched texts or works. Earlier document explained that a philosopher, Martin Heidegger used the method of the Hermeneutic in 1889 until 1976 (Suppiah, 2003, 2013, 2014).

However Hermeneutics has been pioneered by Scheimarcher and Dilthey since 17<sup>th</sup> century and continued by Gadamer, Heidegger, Ricoeur and others in the 20<sup>th</sup> century. According to Mueller (1997), Hermeneutics is all about comprehension. Hermeneutics is a part of thinking arts and philosophy based. Paterson & Higgs (2005) referred Hermeneutics as a shared comprehension and related theory through language.

Hermeneutics theory serves as a philosophical belief to explain the concept of understanding in implementing a text interpretation. Furthermore, this theory suggests to the readers or critics, on the conceptualization philosophy and history on text comprehension process. Based on the definition, researchers concluded that the Hermeneutics is interpreted as a process of changing unknowns into known subjects.

## **Discussion**

Based on the physical and aesthetic analysis through the hermeneutic method, daily teaching plan (RPH), students written worksheets and reflection collected in two months, it is found that the achievement level of every preschool pupils vary. Each child has his/her own level of physical and cognitive development.

From the result, researchers found that children's development can be divided into two which are excellence in academics and excellence in sports. Basically students with academic excellence are more interested to get involved with classroom activities compared to outdoor activities. They tend to get bored very soon when involving in activities such as playing in group.

Analysis shows that children performed well in sports. This matched the idea suggested by Gardner and Piaget, which says that children tend to absorb more information when they learn through playing manners. Active learning is observed when

physical activity performed in group manner where skills of children is developed holistically, i.e. cognition skills, kinesthetic, social, interpersonal, social skills and etc. are maximized. In addition, group activities are more effective because children can share their experiences and knowledge more easily. Following are the several themes to be discussed under this topic:

i) Description of teaching and learning on the theme of ‘butterfly life cycle’ based on Daily Teaching Plan (RPH).

Learning process in the theme of ‘butterfly life cycle’ occurs through the implementation of singing activities which involved cognitive and motor skills through the ‘butterfly life cycle’ song. Development of children’s cognition in this session transpires when the child recalls the life cycle of a butterfly using the song as stimulus and the physical development of the child occurs through creative movement. In this activity, physical development of fine motor skills of children is used in the coloring and pasting activities. Via this process, the creativity of the children is showed in the colorful worm replicas. Cognitive process has occurred when the child chooses his/her color papers to paste the worm replica. This activity has successfully improved the physical development and cultivated new knowledge among the childrens’.

ii) Description of teaching and learning process on the theme of the ‘Tommy exercise’ based on RPH

The ‘Tommy exercise’ exposes children to the creative movements that focuses on the physical and aesthetic development. In this activity, children are able to identify body parts such as hands and feet. Besides that, the children also get to know which is the right and left body parts that has been focused in the song.

iii) Description of teaching and learning process on creative finger movement theme based on RPH

This activity emphasizes psychomotor development of the children. Creative finger movements can sharpen motor skills of children's via counting and clapping activities. From cognition aspect, children are able to show the given number using their fingers correctly, and master the motor skills of counting and clapping. This shows that children can master the technique of learning more effectively with the use of songs.

iv) Description of teaching and learning process on Puzzle theme based on RPH

In this activity, the teacher tries to test the development of children's cognition by asking the children to create a replica of the puzzle provided. This is to test the creativity of the children in the learning process. Process of creating a replica of the puzzle requires children to apply motor skills and cognitive skills simultaneously. In term of cognition, the children showed good progress by being able to create different kinds of replicas and this situation clearly shows that the process of cognition is developed well in physical activity.

v) Description of teaching and learning process based on the theme “Nenek Si Bongkok Tiga”

“*Nenek Si Bongkok Tiga*” theme can help the psychomotor development of a children in a holistic manner through singing, movements and games. In this activity, children can sharpen their cognitive skill by memorizing song lyrics. In addition, these activities also emphasize movement, such as walking and running in their learning process. For instance, psychomotor is used when they use their fingers to find and touch their friends. In term of cognition, children use their cognition to guess which friend are they holding based on touching the face and body parts. Moreover, psychomotor skills are also applied extensively through walking, running, and jumping while singing in a group.

vi) Description of teaching and learning about personal hygiene theme according to RPH.

In this activity, teacher exposes children to types of sanitation to improve their knowledge. In term of cognition, children know how to keep clean and are aware of the consequences of not doing it. In this activity, teacher asks the children to demonstrate the proper way of showering. The soft motor skills in children has been developed when they manage to demonstrate the correct way of showering. In addition, demonstration of brushing teeth also trains children to apply their soft motor skills. Indirectly, such activities teaches the children some common knowledge on daily life.

vii) Description of teaching and learning about creative movement theme “*Mari Bergerak*” based on RPH

Creative movement theme increases children’s skills in psychomotor development which involves motor skills. In this activity, teacher tests listening skills through the song lyrics and students’ ability to memorize the choreography. In term of cognition, teacher observes the creativity of children performing their dance movements based on the song given. In this activity, cognition has been applied when the child knows how to turn left when they hear the instruction to turn left given in lyrics of the song. This activity shows that children do not have difficulties in movements and can make good creative movements.

viii) Description of teaching and learning process on bird origami theme based on RPH

In this theme, children use very high cognition in which children learn to use their soft motor skills. In addition, in this activity, teacher uses cognition skills to test existing knowledge of children about the types of birds they know. In the meantime, children learn to use hand-eye coordination skills as the process of folding paper requires close attention. In such activity, teacher exposes children with motor skills of making origami. In addition, through drawing and coloring origami activities, children use their creativity to choose the color papers and to do the coloring. From cognition aspect, children use high hand-eye coordination to make the origami.

## **Conclusion**

Researchers, through this study, found that preschool children can be divided into three categories: excellent, average, and poor. There are several factors have been identified which are the reasons for the failure in the process of cognition through the physical and aesthetic elements.

Based on the analysis of RPH, student worksheets and teacher reflection carried out by researchers, various factors can be observed that contributed to teacher's failure in applying cognitive development during teaching and learning process in the classroom. Among the factors contributing to the failures in cognition process, by referring to the physical and aesthetic elements, among preschool children are parents, teachers, PTA, the State Education Department, the Malaysia, Ministry of Education and the allocated infrastructures in preschools.

Parents play a very important role in educating their children in the early stages of development. Many parents are not aware of the importance of emphasizing learning process at early age. Nowadays most parents pay more attention to their careers than to their children's development. For these kind of parents, their daily routine working and the children are handed over to the care centers. Such parents affect their children's cognition process as less attention and affection are received and given.

Besides that, the atmosphere and environment will also affect the development of children's cognition as it is the place for them to gain new experience in the learning process. When they are surrounded by a positive and conducive environment, they tend to grow up with good attitudes and eventually excel well in school. However, when children are brought up with lack of love and in a negative environment, this will affect the children's cognition process in the future. This is because children are exposed to the things that are inappropriate for them, in their early stage of development.

Attitude of parents who are lenient to their children and loves to shove the responsibilities and blames the school and teachers particularly, worsen the situation. Parents should never blame the school for their children's behaviors as they too, have the responsibilities to educate their young ones. As caring parents, they should at least contribute some efforts to show that they care about their children by checking their children's school works and assess children's progress from time to time.

Teachers bear heavy responsibilities as they must have strong commitment to educate and provide guidance to their students. Furthermore, teachers need to equip themselves with knowledge covering various aspects of life. Excellent teachers will be producing students who excel, while those who are less committed will result in bad impacts on student.

The role of teachers, especially in preschools are very important because this stage is pivotal stage for the students to build up their characters. Teachers need to be aware of students who are weak and subsequently take effective steps to overcome the problems. Due to the ability of learning among children varies, teachers must be vigilant in choosing their teaching methods. This is why teachers need to be creative in finding ways to diversify teaching techniques and knowledge so that children are able to learn more.

Other than parents and teachers, PTA role is also vital in producing students who excel in both academic and curriculum. This is because both parties need to work together in an effort to educate the children. For example in school programs, parents must take part in order to support and achieve the goals that have been aimed for teachers may not be able to reach the goals without assistance from parents. Therefore, the two parties must work together and be united in various aspects for the benefit of students in achieving academic and life excellences in the future.

The role of education authorities are necessary in order to teach children the ways of achieving Excellencies. For instance, Ministry of Education's (MOE) plays a crucial role in advancing the education system. In addition, the National Standard Pre-School Curriculum (KSPK) becomes the benchmark for preschool and kindergarten

teachers in their daily teaching plan. By this, KSPK helps to reduce teachers' burden of finding ideas to deliver text book contents. Therefore, MOE is essential to ensure holistic development in children.

Apart from that, infrastructures are also an important factor in the process of teaching and learning. It is significant to expose children to the advent of globalization today. Computers and the Internet for example, not many government preschools and kindergartens are provided with these commodities. This situation affects a child's development, especially students from rural areas as they are often left behind in their studies due to lack of facilities provided to them. As we know, this new world requires a lot of IT monitoring skills and information technologies. It is a fact that to provide such facilities requires huge amount of expenses and therefore many schools and teachers cannot afford to teach using this method. Lack of infrastructures defect the teaching and learning process and eventually leaves impact on children's cognition.

An in-depth knowledge on the development of children's cognition provides many benefits to children, teachers, and parents. The use of effective methods in teaching and learning process encourages steady cognition development in children. For that reason, physical activity should be encouraged in early stages of development because physical activity provides meaningful learning experiences for children. In addition, teachers also need to know the factors that encourage children's tendency to continue exploring the learning experiences in order to cultivate a deep interest in learning.

Children's physical environment should be given attention to ensure the occurrence of a holistic development. Through good and effective cognition methods and applications, a child's inner potential can be expanded. Teaching and learning plans which include activities such as playing with friends can also increase the kinesthetic intelligence of children. Skills they acquired in the process of teaching and learning whilst interacting with children help to equip them later at the elementary school.

All factions should give serious consideration to improve children's cognition. Parents, family and teachers are the significant people in enhancing children's early cognition process. Educating pupils at young age is to produce knowledgeable and capable children for a better achievement in future. Hence, it becomes a responsibility of all to provide guidance and support for the younger generation as they are the future country leaders.

## References

- Kementerian Pendidikan Malaysia. (2003). *Kurikulum Kebangsaan Prasekolah*. Kuala Lumpur: Pusat Perkembangan Kurikulum.
- Loganathan, K. (1992). *Hermeneutic Analysis of Discourse*. International School of Dravidian Linguistics, India.
- Mueller, V. K. (1997). *The Hermeneutics Reader*. New York: The Continuum Publishing Company.
- Paterson. M., & Higgs. J. (2005). Using Hermeneutics as a Qualitative Research Approach in Professional Practice. *The Qualitative Report*, 10(2), 339-357.
- Suppiah Nachiappan. (2003). *Proses Kognitif Dalam Penulisan Esei Melalui Analisis Hermeneutik*. Pulau Pinang: Universiti Sains Malaysia (Tesis Ph.D. tanpa terbit).
- Suppiah Nachiappan. (2013). *Proses Kognisi dan Afeksi: Kaedah Pedagogi Hermeneutik dan Interpretasi*. Tanjong Malim: Penerbit Universiti Pendidikan Sultan Idris.

- Suppiah Nachiappan. (2014). *Gaya Bahasa dan Proses Kognisi: Kaedah Pedagogi Hermeneutik dan Interpretasi*. Tanjung Malim: Penerbit Universiti Pendidikan Sultan Idris.
- Zainuddin Abu Bakar. (2013). *Teori-Teori Perkembangan*. Skudai: Universiti Teknologi Malaysia.